

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of October 24, 2008 is respectfully requested.

By this Amendment, claims 1 and 10 have been amended. Thus, claims 1-14 are currently pending in the application. No new matter has been added by these amendments.

Applicants would like to thank the Examiner for his courtesy in granting and conducting the telephone interview of January 15, 2009. Specific portions of the interview are referred to in the following discussion.

As an initial matter, the Examiner indicated during the interview that the recitation of the second and third oil pumps in claims 1 and 10 appeared to be indefinite, as it was unclear what feature the phrase “provided on an outer periphery of the shaft” referred to. In this regard, it is noted that claims 1 and 10 have been amended to recite “a second oil pump provided above the first oil pump and formed by a spiral groove and an inner peripheral wall surface of the rotor, the spiral groove being provided on an outer periphery of the shaft” and “a third oil pump provided above the second oil pump and formed by a spiral groove and an inner peripheral surface of the bearing, the spiral groove being provided on the outer periphery of the shaft.” Accordingly, it is respectfully submitted that amended claims 1 and 10 fully comply with the requirements of 35 U.S.C. § 112.

On pages 2-4 of the Office Action, the Examiner rejected claims 1-3 and 5 under 35 U.S.C. § 102(b) as being anticipated by Bergman (US 3,848,702). On pages 5-13 of the Office Action, the Examiner made the following rejections under 35 U.S.C. § 103(a): claims 4, 6 and 7 are rejected as being unpatentable over Bergman; claim 8 is rejected as being unpatentable over Bergman in view of Woodson (U.S. 2,526,443); claim 9 is rejected as being unpatentable over Bergman in view of Kawahara et al. (U.S. 5,340,287); claims 10, 13 and 14 are rejected as being unpatentable over Bergman in view of Tamura et al. (U.S. 6,547,538); and claims 11 and 12 are rejected as being unpatentable over Bergman in view of Tamura, and further in view of Kandpal (U.S. 5,266,016). For the reasons discussed below, it is respectfully submitted that the amended claims are clearly patentable over the prior art of record.

Amended independent claim 1 recites a hermetically sealed compressor comprising a sealed vessel filled with a coolant and a freezer oil, an electromotive element including a rotor

and a stator, the electromotive element being accommodated within the sealed vessel, and a compressing element accommodated within an upper region of the sealed vessel and adapted to be driven by the electromotive element, the compressing element being provided with a shaft, arranged so as to extend vertically and having the rotor mounted thereon, and a bearing for supporting the shaft.

The compressor of claim 1 also includes *a first oil pump comprising an inclined hole defined in a lower portion of the shaft and opening into the freezer oil*. Further, the compressor of claim 1 includes *a second oil pump provided above the first oil pump and formed by a spiral groove and an inner peripheral wall surface of the rotor, the spiral groove being provided on an outer periphery of the shaft, the second oil pump being communicated with the first oil pump through a throughhole that communicates the outer periphery of the shaft with the inclined hole in the lower portion of the shaft*. In addition, the compressor of claim 1 includes a third oil pump provided above the second oil pump and formed by a spiral groove and an inner peripheral surface of the bearing, the spiral groove being provided on the outer periphery of the shaft.

Amended independent claim 10 recites a hermetically sealed compressor comprising a sealed vessel filled with a lubricant oil, an electromotive element including a rotor and a stator, the electromotive element being accommodated within the sealed vessel, and a compressing element accommodated within the sealed vessel and adapted to be driven by the electromotive element, the compressing element being provided with a shaft, having an eccentric shaft portion and a main shaft portion, and a main bearing for supporting the main shaft portion.

The compressor of claim 10 also includes *a first oil pump comprising an inclined hole defined in a lower portion of the shaft and opening into the lubricant oil*. Further, claim 10 recites *a second oil pump provided above the first oil pump and formed by a spiral groove and an inner peripheral wall surface of the rotor, the spiral groove being provided on an outer periphery of the shaft, the second oil pump being communicated with the first oil pump through a throughhole that communicates the outer periphery of the shaft with the inclined hole in the lower portion of the shaft*. In addition, the compressor of claim 10 includes a third oil pump provided above the second oil pump and formed by a spiral groove and an inner peripheral surface of the main bearing, the spiral groove being provided on the outer periphery of the shaft. Claim 10 also recites that the electromotive element is a bipolar permanent magnet electric

motor including a permanent magnet built in a rotor iron core of the rotor.

Bergman discloses a lubricating system which, as shown in Fig. 1, includes an electric motor 12 having a tubular shaft 14 to drive a compressor 16. The shaft 14 carries internally thereof a pump element 68 having a shaft-like wall 70 and pumping ribs 72. Further, the upper portion of the shaft 14 is journaled in a bearing 86, at which the shaft 14 has oil grooves 92, 94 and 96.

However, Bergman does not disclose *a first oil pump comprising an inclined hole defined in a lower portion of the shaft and opening into the lubricant oil*, as required by independent claims 1 and 10. In this regard, during the interview, the Examiner indicated that the lower portion of the shaft 14 which is immersed in the oil sump 82 corresponds to the “first oil pump” of claims 1 and 10. However, Bergman does not disclose that the lower portion of the shaft 14 includes an inclined hole, as required by claims 1 and 10.

Further, Bergman does not disclose *a second oil pump provided above the first oil pump and formed by a spiral groove and an inner peripheral wall surface of the rotor, with the spiral groove being provided on an outer periphery of the shaft, and with the second oil pump being communicated with the first oil pump through a throughhole that communicates the outer periphery of the shaft with the inclined hole in the lower portion of the shaft*, as required by claims 1 and 10. On page 3 of the Office Action, the previous Examiner asserted that the spaces between the ribs 72 of the shaft-like wall 70 of Bergman correspond with the spiral groove of the second oil pump of the claimed invention. However, during the interview, it was pointed out that the “grooves” defined by the ribs 72 are not provided on an outer periphery of the shaft to which the rotor is mounted, because the ribs 72 of Bergman are provided internally of the shaft 14.

The Examiner acknowledged this distinction, but asserted that the oil groove 94 corresponds to the second oil pump of the claimed invention, and noted that the oil groove 94 is provided on an outer periphery of the shaft 14. In this regard, however, it is noted that the oil groove 94 does not constitute a second oil pump formed by a spiral groove and an inner peripheral wall surface of the rotor, as Bergman discloses that the oil groove 94 is journaled in a bearing 86 within the casing 18. As neither the bearing 86 nor the casing 18 of Bergman corresponds to the rotor, Bergman does not disclose a second oil pump provided above the first

oil pump and formed by a spiral groove and an inner peripheral wall surface of the rotor, with the spiral groove being provided on an outer periphery of the shaft, as required by independent claims 1 and 10.

Further, as Bergman does not disclose a first oil pump comprising an inclined hole defined in a lower portion of the shaft and opening into the lubricant oil, as indicated above, Bergman also does not disclose a second oil pump provided above the first oil pump and formed by a spiral groove and an inner peripheral wall surface of the rotor, with the spiral groove being provided on an outer periphery of the shaft, and with the second oil pump being communicated with the first oil pump through a throughhole that communicates the outer periphery of the shaft with the inclined hole in the lower portion of the shaft, as required by independent claims 1 and 10.

Therefore, it is respectfully submitted that Bergman does not anticipate independent claims 1 and 10.

On page 10 of the Office Action, the Examiner also notes that Bergman does not disclose that *the electromotive element is a bipolar permanent magnet electric motor including a permanent magnet built in a rotor iron core of the rotor*, as required by independent claim 10. In this regard, the Examiner cites Tamura as disclosing a bipolar permanent magnet electric motor. However, it is noted that Tamura does not cure the defects of the Bergman reference as discussed above.

Therefore, for the reasons presented above, it is believed apparent that the present invention as recited in independent claims 1 and 10 is not disclosed or suggested by the Bergman reference and the Tamura reference taken either individually or in combination. Accordingly, a person having ordinary skill in the art would clearly not have modified the Bergman reference in view of the Tamura reference in such a manner as to result in or otherwise render obvious the present invention of independent claims 1 and 10.

Therefore, it is respectfully submitted that independent claims 1 and 10, as well as claims 2-9 and 11-14 which depend therefrom, are clearly allowable over the prior art of record.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice to that effect is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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